

WHAT IS CLAIMED IS:

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1. A transmission apparatus used for forming a network that supports a bidirectional ring switching capability, the transmission apparatus comprising:

10           a detecting part for detecting a ring switching request from a received signal;  
            an obtaining part for obtaining an identifier of a transmission apparatus included in the ring switching request, and obtaining  
15           concatenation setting information corresponding to the identifier; and

            a setting part for making concatenation setting for a protection line according to the concatenation setting information.

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2. The transmission apparatus as claimed  
25 in claim 1, the obtaining part comprising;

            a storing part for storing pieces of concatenation setting information of transmission apparatuses on the network in association with identifiers of the transmission apparatuses;

30           wherein the obtaining part obtains the concatenation setting information from the storing part.

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3. The transmission apparatus as claimed

in claim 1, wherein the obtaining part obtains the concatenation setting information from information received from another transmission apparatus.

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4. The transmission apparatus as claimed in claim 2, the transmission apparatus further comprising:

a detecting part for detecting concatenation setting in the transmission apparatus; and

a sending part for adding the own identifier of the transmission apparatus to concatenation setting information corresponding to the concatenation setting and sending the concatenation setting information with the own identifier to another transmission apparatus.

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5. The transmission apparatus as claimed in claim 4, wherein, when the own identifier is changed, the sending part adds the changed identifier to the concatenation setting information and sends the concatenation setting information with the changed identifier to another transmission apparatus.

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6. The transmission apparatus as claimed in claim 4, the transmission apparatus further

comprising:

5 a part for adding the own identifier to first pieces of concatenation setting information stored in the storing part and sending the first pieces of concatenation setting information with the own identifier to another transmission apparatus in response to receiving a predetermined command; and  
10 a part for receiving second pieces of concatenation setting information from another transmission apparatus, writing own concatenation setting information into the received second pieces of concatenation setting information, and sending the second pieces of concatenation setting information to another transmission apparatus.

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20 7. A concatenation setting method in a transmission apparatus used for forming a network that supports a bidirectional ring switching capability, the method comprising the steps of:

detecting a ring switching request from a received signal;

25 obtaining an identifier of a transmission apparatus included in the ring switching request, and obtaining concatenation setting information corresponding to the identifier; and

30 making concatenation setting for a protection line according to the concatenation setting information.

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8. The method as claimed in claim 7, wherein the transmission apparatus comprises a

storing part for storing pieces of concatenation setting information of transmission apparatuses on the network in association with identifiers of the transmission apparatuses;

5                    wherein the transmission apparatus obtains the concatenation setting information from the storing part.

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9. The method as claimed in claim 7, wherein the transmission apparatus obtains the concatenation setting information from information  
15                    received from another transmission apparatus.

20                    10. The method as claimed in claim 8, the method further comprising the steps of:

                    detecting concatenation setting in the transmission apparatus; and

                    adding the own identifier of the  
25                    transmission apparatus to concatenation setting information corresponding to the concatenation setting and sending the concatenation setting information with the own identifier to another transmission apparatus.

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11. The method as claimed in claim 10,  
35                    wherein, when the own identifier is changed, the transmission apparatus adds the changed identifier to the concatenation setting information and sends

the concatenation setting information with the changed identifier to another transmission apparatus.

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12. The method as claimed in claim 10, the method further comprising the steps of:

10       adding the own identifier to first pieces of concatenation setting information stored in the storing part and sending the first pieces of concatenation setting information with the own identifier to another transmission apparatus in  
15       response to receiving a predetermined command; and  
          receiving second pieces of concatenation setting information from another transmission apparatus, writing own concatenation setting information into the received second pieces of  
20       concatenation setting information, and sending the second pieces of concatenation setting information to another transmission apparatus.

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